

## **Eternal Armor: Unveiling the Impact of 1950s Tank Design on Modern Military Vehicle Development**

Over the summer of 2023, a meme rushed across Reddit, depicting the T-55 tank, a rectangularly-shaped vehicle with a dome-shaped turret atop its chassis. Under this image appears the following phrase: “To me, the T-55 is the embodiment of the word tank. The most tank-looking tank ever produced. What's yours?” [1]

While the meme primarily aims to incite laughter from viewers who chuckle at the appearance of many military innovations (most of whom do not know or care about the tank’s designation in history), it also demonstrates the key role that tanks continue to play in the modern imagination and battlefield. Indeed, in the ongoing Russian-Ukrainian War, Russian commanders rely heavily on tank maneuvers against Ukrainian guerilla forces, calling upon modern T-90, T-72, and T-80 tanks to perform roles ranging from long-range fire support, infantry support, and anti-tank cover, and to close with and destroy the enemy using fire, maneuver, and shock effect. [2]

Yet where does the modern world’s obsession with tank warfare come from? Perhaps it comes from the depiction of tanks as nearly indestructible walls of steel in Hollywood films, such as the “unstoppable” Tiger tanks in *Saving Private Ryan* and *Fury*. However, that image of the invincible tank is starting to deteriorate, as countless videos of tanks blowing up in the Ukraine War began to surface on the internet, such as drone footage showing a Russian T-90M traversing through an open field and suddenly bursting into flames. This led many to doubt the ability of tanks to truly hold up to their reputation of being indestructible beasts of war. Not only is the competency of tanks being put into question, but the wide usage of drones is also being brought to public attention, and comparisons between the two military technologies have started to arise. In Congressman Adam Smith’s words, “Tanks are not as useful as they used to be. Drones are a lot more useful. Why do we have more tanks than drones?” [3] However, the importance and tactical role of tanks in modern warfare are not to be understated, and they will remain a pivotal piece of the grand puzzle of warfare.

Most historians agree that when the tank first appeared in British armies during World War One via the Mark I tank in mid-September of 1916, its soldier-protecting, hard outer chassis and its ability to roll over ditches offered new tactical maneuvers in the bloody man-on-man trench warfare utilized at the time, despite suffering from early technological malfunctions. For instance, this first batch of tanks was hot, noisy, and unwieldy, suffering from mechanical malfunctions on the battlefield; nevertheless, people realized the tank’s potential. [4] However, even in World War II, their unwieldy size (such as the King Tiger II, designed in 1944, which was 7.4m long and 3.75m wide—about two-thirds the size of a school bus while weighing around 35 cars) and tendency to break down due to technological limitations and heavyweight certainly did not appeal to either designing engineers or tank-wielding soldiers. For instance, the Tiger tank made it difficult to retreat from the battlefield due to its frequent breakdowns, high gasoline consumption, and difficulty crossing bridges. [5] Thus, a few examples of these early tanks, such as the T-34 and the M4 Sherman, survived past the Second World War.

Many scholars, including military historian Richard M. Ogorkiewicz, attribute modern tank development to the 1980s during the late Cold War, which makes for a reasonable argument given its relatively recent history. They note that many features of tanks developed during this period are extremely impactful in the present day. The United States’s M1 Abrams model, for instance, was produced in the 1980s and included a composite “Chobham” armor developed

from steel and spaced ceramic armor tiles that allowed for protection against kinetic and chemical munitions and a gas turbine engine that allowed for great cross-country performance, albeit at the cost of high fuel consumption. [6] [7] Such armor composition and levels of mobility are common among modern main battle tanks like the American M1 Abrams and the German Leopard 2, which were “very similar... [b]ig vehicles, heavily armored.” [8] The introduction of computer-assisted fire control systems and thermal imaging technology greatly enhanced the firepower of tanks; the implementation of such advanced fire control systems determines “tank accuracies and firing rates and extends tank capabilities by enabling effective weapon firing at night, in poor visibility, at moving targets, or on the move.” [9] The German Leopard 2 first produced in the 1970s, meanwhile, set the stage for electronically enhanced protection and fire-control systems, incorporating advanced mobility features as seen in modern tanks and airplanes. [10] These innovations offered tanks hitherto unknown terrain mobility, these scholars maintain, which allowed for novel hit-and-run tactics heretofore only utilized by cavalry and usage on urban battlefields across winding streets as well as in open-field skirmishes. [11] During this time, as well, tanks began to be employed not only for invasions across enemy territory but also for peacekeeping missions by organizations such as the UN, aiding countries with internal instability or facing turmoil, showcasing the adaptability of tanks from purely offensive tools to instruments of international peace and stability. [12]

While the 1980s certainly pushed tank development forward, scholars glorifying this era overlook an equally impactful, if not more vital, stage in tank development: the 1950s. This era produced iconic tank designs, such as the Soviet T-54/55 and the American M60 Patton, laying out key features in both the composition of tanks and the usage of tanks in military maneuvers that set the stage not only for the 1980s tank renaissance but also modern warfare today. While tank technology has continued to develop, the basic engineering principles and economic, military, and doctrinal policies used in 1950s tank design provide the foundation on which modern tanks are created. This essay will demonstrate that the true genesis of modern tank design occurred during the 1950s through three case studies. First, it will examine the origin of the Soviet T-54 tank and how it made a pivotal move to break away from World War II traditions. Second, it will discuss the Soviet T-55, a deep modernization of the T-54, which established an ongoing trend in Soviet tank development. Lastly, it will dive into the US’s reaction to the T-54/55 in the form of the M60 Patton, how it impacted US military doctrines, and how it leaped to embrace the idea of the Main Battle Tank.

### **T-54 and the Reimagination of Wheeled Weaponry**

Much of Cold War tank development can owe its origins to the Soviet T-54/55 medium tank, which holds a pivotal place in modern military history as it was the first tank to truly break away from its World War II ancestors. Its immediate predecessor, the T-44, emblemized old World War II standards of tank design, which started to become ineffective on the ever-evolving battlefield. The T-44 represented the “culmination of Soviet wartime design, with an impressive mixture of design simplicity and high combat effectiveness for a 30-ton tank” and provided a good foundation upon which the T-54 would later develop. [13] The T-54 was the first main member of the T-54/55 family, with the T-55 being a modernization and systematic improvement over the T-54. [14]

The T-54’s new approach to tank design parted ways from wartime design philosophies employed in the Soviet military. This change was crucial in re-imagining the structure and role of

tanks in modern military tactics. Structurally, it utilized new features such as a dome-shaped turret and better-optimized armor layout, significantly distancing it from World War II tanks and introducing a new era of cost-effective, pragmatic tanks that impacted generations to come. Composition-wise, cast homogenous steel was used for the turret, with rolled steel plates used for the hull. Although cast steel offered comparably inconsistent levels of protection, it maximized cost and production efficiency due to its cheap and simple production method. [15] This use of armor material is consistent among Soviet tanks and was seen throughout the Cold War. [16]

While some countries strictly focused on one manufacturing method over the other, this blend of cast and rolled armor found on the T-54 and its successors gave the Soviets an edge in production efficiency and numerical advantage, with over 80,000 units produced compared to the mere 15,000 American M60 tanks produced. [17] As scholars often agree, this choice to decrease production costs was an extremely pragmatic one, allowing the Soviet military to produce combat vehicles in mass while retaining high levels of combat effectiveness, reflecting the industrial capabilities of the Soviet Military-Industrial Complex. [18] Although the Soviet Union emerged from the war as a victor, it did suffer from devastating economic damages; thus, coming up with a completely new tank design is not only impractical but also nearly impossible, especially when given limited time. The T-34-85 saw wide production throughout the war, with many manufacturing firms having sufficient experience in manufacturing similar parts. Thus, sticking with similar design choices made it easier for these firms to mass-produce the new tanks. The choice of retaining similarities with the T-34-85, such as the turret, road wheels, and tracks, foreshadows a tendency in tank development that has remained consistent over time; tank designers tend to borrow design features from previous designs, only making necessary improvements impacted by economic or production concerns.

Additionally, the significance of gun testing involved in the development of the T-54 cannot be overstated in the context of Cold War tank development; it led to the adoption of a new standard of tank firepower among the Soviet military. The trials, which included fitting the prototype T-44 with the 85mm D-5T and ZiS-S-53 cannons from T-34-85 variants and the 122mm D-25T cannon from the IS-2 heavy tank, played a crucial role in realizing a “sweet spot” of cannon implementation in medium tanks: a balance between firepower, logistical value, and production efficiency. The limitations in penetration and ballistic performance of the 85mm cannons made the designers rethink their design routes for a newer and heavier-hitting design. However, the failed test implementation of the 122mm cannon highlighted the practical limitations of size and weight, demonstrating that the Soviet tanks needed a balanced and adaptable armament solution. [19] It was through a meticulous process of trial and error that the 100mm D-10T cannon emerged as the ideal choice. This yearning for a perfect blend of high firepower and effective implementation of cannons tends to be the case in Cold War Soviet tank designs, with each major design being armed with a higher caliber cannon, from the T-54/55’s 100mm to the T-62’s 115mm to the T-72’s 125mm. [20] Therefore, this adoption of the 100mm cannon represented a leap forward in firepower and combat effectiveness, enhancing the tank’s combat capabilities and addressing the shortcomings of the 85mm and 122mm options.

What made the T-54 such an important step in tank development is perhaps best highlighted in its comparison with the design and combat doctrines of the T-34-85. During the Second World War, the Soviet Union demanded that an expendable, cheap-to-produce tank be fielded in action, and it should be of sufficient quality to contend with its German counterparts. The T-34-85’s engine was designed to last for more than 250 hours, while in reality it often broke

down in less than 200 hours, meaning that it had a very limited travel range before breaking down. [21] To make up for its technological shortcomings, the T-34-85 was produced in extremely large quantities, with over 55,000 of the T-34-85 variant being produced from 1943 to the end of its production time. [22] As a result, the T-34-85 truly embodies the idea of an expendable tank that reflects the “quantity over quality” philosophy.

The T-54, however, featured a much more sophisticated engine system with increased reliability in its transmission gearbox while being lighter and smaller than its Western counterparts. [23] Despite also being produced in large quantities, the T-54 performed much better than the T-34-85 in field exercises and was so feared in its capabilities and quantity that it forced the United States to come up with a new design to replace their current tank following the T-54’s introduction. Although the T-54 inherited several design choices from its wartime ancestors, like an open ventilation system, it began encouraging innovative thinking in tank design philosophies.

### **T-55, The Iron Workhorse**

The T-54 paved the way for a new tank in 1955 that pushed towards true modernization, aptly named the T-55. Although many pieces, such as the chassis and turret design, armor thickness, and cannon caliber, were identical to the T-54, its fire control and protection systems were redeveloped, raising the importance of tank crews’ survival in tank design.

With the introduction of weapons of mass destruction, the survival rate of tank crews operating in any tank in the Soviet arsenal was extremely low when hit by blast pressure from a nuclear explosion, as the roof air vents prevented the complete enclosure of the tank interior. Nuclear protection was particularly important in its Cold War context, as the nuclear bombing of Hiroshima and Nagasaki proved the destructive nature of such weapons; additionally, Soviet and American forces fought to create ICBMs, which further increased the lethality of nuclear weapons. The T-55 was the first Soviet tank to implement the PAZ (Protivoatomnaya Zashchita) NBC (nuclear, biological, chemical) protection system to address the issue of overpressure and nuclear radiation, which resulted in the deletion of the mushroom-shaped air intake vent on the roof along with an overhaul in the design of the turret roof. [24] This redesign offered sufficient protection against biological and chemical weapons, becoming the first tank in the Soviet arsenal to feature efficient NBC protection, which contributed greatly to the well-being of the tank’s crew. [25] In times of an unlikely yet possible nuclear outbreak, the crew may be less disturbed by possible nuclear radiation and be able to better focus on their tasks at hand. Though these protection system upgrades cannot protect the tank’s crew near a nuclear detonation, it was good enough that it served as a morality boost for many Soviet tankers operating in Germany and other shatter belt regions in the world. [26]

This drive to enhance crew safety while addressing advancements in technology emerged as a significant trend in the future design of tanks. This is evident in the development of explosive reaction armor as a response to high-explosive anti-tank munitions, the adoption of smoothbore cannons to accommodate the introduction of high-velocity armor-piercing fin-stabilized sabot shells, and the integration of auto-loading systems to address complex factors in human ammunition loading, which requires more room while also having inconsistent loading speeds.

However, the most important aspect of the T-54/55 series of tanks was its place in shaping Soviet combat doctrines during the 1950s. The original power pack found in the T-54

was upgraded to a new V-55 engine, increasing fuel capacity and, in turn, allowing for longer combat ranges. In comparison with the T-34-85, which had an operational range of 320km, the T-55 had an operational range of nearly 600km with extra fuel tanks, giving it substantially better combat efficiency compared to its predecessors. [27] The road wheels also featured a new “starfish” design, differing from the T-54’s “spider web” design, which had more parts involved in its construction, allowing for more uniform weight distribution and simpler construction methods. The fact that the T-55 integrated a two-plane cannon stabilization system further contributed to increased accuracy when firing on the move. The improved mobility as well as the reliability of the new tank align with the newly founded Soviet Deep Battle doctrine, which demanded good cross-country performance and operational range. Soviet doctrines also required that these tanks undergo periodic upgrading during their major overhauls every ten years. [28] Altogether, these upgrades resulted in a highly mobile and combat-efficient tank that effectively embodied the Deep Battle doctrine of the Soviet military at the time.

The T-54/55 tanks were highly adaptable, featuring relatively simple and versatile designs with spare parts in ready supply, thus allowing them to smoothly integrate into the Soviet doctrinal philosophy of “quantity over quality.” This adaptability made them easier to mass-produce, which was a key consideration during the early Cold War; this cost-efficient production method of the T-54 and T-55 made them favorable designs within the Soviet military. Despite being relatively cheap to produce compared to the “IS” series of heavy tanks, the T-54/55’s better cross-country performance and lesser weight allow it to achieve better combat efficiency, such as the ability to cross rivers that are 5 meters in depth with the aid of fording equipment. [29] Having good cross-country performance and range allows the T-54/55 to be more versatile in its deployment, as well as minimizing logistical or technological issues that might arise. The versatility of the T-54/55 series of tanks made it extremely popular among Warsaw Pact nations as well as non-aligned nations that could not domestically produce tanks but wanted a cost-efficient tank model. For instance, Finland ordered several dozen T-54s and T-55s in the late 1950s, as it couldn’t domestically design or produce its main battle tank.

The Soviet T-55 tank's influence on tank development in NATO countries marked a new era in armored warfare. As the Cold War raged on, the T-55 was still in service in the Soviet military, simply because it was effective at doing its job: providing direct and mobile fire support on a reliable and battle-proven platform at a minimal cost, which was \$200,000 per unit, compared to NATO tanks that sit at double its cost. [30] As a result of the combination of Soviet industrial capacity and the T-54/55’s ease of manufacturing, the sheer number of T-55 produced is shocking, at 86,000 to 100,000 units, making it the most produced tank of all time. This widespread availability, improved armor and firepower, and versatile design pushed Western nations to develop medium tanks with balanced mobility, firepower, and protection, leading to the proliferation of main battle tanks and setting the stage for the next phase of tank warfare during the Cold War and beyond. [31] Its influence on NATO tank development extended to strategies, tactics, and defense measures, becoming a pivotal factor in shaping the design and deployment of armored forces in both the Eastern and Western military, deeming it worthy as the early “workhorse” of the Soviet military.

### **M60 Patton, the Guerrilla Tank**

If the Soviet T-54/55 broke away from World War II traditions in a race for a new modern paradigm of Cold War tank development, then the American M60 Patton main battle tank took us

there, reflected in its technological advancements, strategic and pragmatic implementation in combat doctrines, and its longstanding legacy. Despite being first conceived 60 years ago as a stopgap to address improvements in Soviet tank design, the introduction of the M60 is not merely a chronological progression of armored technology. [32] Instead, it marks a pivotal moment in American tank development history, setting the stage for new methods of tank improvement and doctrinal implementation.

According to a UK military attaché's inspection of a Soviet Army T-54A tank in Budapest during the 1956 Hungarian uprising, the tank was 10 tons lighter than the then-new M48 but was better armored and more powerfully armed. [33] The Army also expected difficulties in engagements with enemy tanks since the M48's 90mm gun could not consistently penetrate the IS-3's frontal armor, even with special armor-piercing or HEAT ammunition. [34] Thus, the 1958 Bureau of Budget compelled the US to develop a more sophisticated, high-power tank that could routinely overcome Soviet armor while still maintaining reliable protection, highlighting the need for a long-term goal involving a main battle tank equipped with reliable armor and firepower compared to their Soviet counterparts and illustrating the level of decisiveness and awareness that the American military doctrine demands.

In response to the Bureau's findings, the XM60 program developed by the Ordnance Tank-Automotive Command represented a crucial decision in advancing American armor innovation and development, as it recognized the importance of staying on par with parallel Soviet development as well as highlighting the importance of awareness that allowed the United States to sustain itself throughout the Cold War. Using the chassis of the M48A2 and the Continental AVDS-1790 engine as a basis, the XM60 sought to introduce cutting-edge features, including the innovative siliceous-cored armor, which is considered a precursor to the Chobham composite armor utilized in the later M1 Abrams and British main battle tanks such as the Chieftain and Challenger tank. [35] The designers incorporated a well-sloped hull to provide better protection against enemy fire, giving the M60 an edge on the battlefield and offering superior protection over the previous generation of American tanks as well as its Soviet counterpart, the T-55.

The M60 cannot fully contribute its development to the Soviet T-54 and T-55. Its development stemmed directly from modifications to areas of firepower from the World War II M26 Pershing and Cold War M46, M47, and M48 Patton models. However, the Soviet T-54/55 tanks compelled them to greatly increase all-round capabilities, including firepower, armor, mobility, and comfort—the first instance of the “maximum adaptability” philosophy still utilized today.

Its length, including the main gun, puts the M60 at 30 feet, with a width of 11 feet and a height of 10 feet and 6.5 inches, making it substantially taller than the T-55, which only has a height of 7 feet and 10 inches. New stowage arrangements were also proposed to move ammunition below the turret ring, but these changes required considerable modification to the turret design. These ergonomic improvements allowed soldiers to remain more at ease when operating tanks, increasing the rate at which soldiers could respond to changes in maneuvers and tactics, which in turn allowed them to move and operate the vehicle with improved fluidity, a feat that tank scholar Franklin Watts has repeatedly connected to soldier comfort. This also prepared the tank for numerous future upgrades to fire control and crew protection systems that define the distinctiveness of the M60, allowing the tank to live way beyond its prime. Firepower was a key consideration in the development of the M60, which demanded that it be on par, if not superior, to the Soviet T-54/55. A new requirement to shoot on the move was

incentivized by the need to increase system effectiveness and battlefield survivability. The problem was that the gunner could not easily place consistent first-round hits on the target while the tank was moving. The add-on stabilization system provides stabilization control for both gun elevation and turret traverse. It provides the gunner with “the capability of aiming and target tracking while the tank is moving... and improved surveillance of the battlefield terrain by the gunner while the tank is moving.” [36] The implementation of such a stabilization system aligns with US doctrines that emphasize the fact that whoever shoots first has a higher chance of victory. The introduction of the 105mm cannon also represented a considerable leap forward in firepower for the M60, allowing the tank to engage targets effectively at longer ranges, aligning with American doctrine's emphasis on standoff engagements. Later in the 1970s, versions of the M60, particularly the M60A variant, were equipped with a ruby laser rangefinder, which had an effective range of ten kilometers, allowing tank crews to hit targets at long ranges with improved accuracy, precision, and confidence. The efficiency of the 105mm combined with a laser rangefinder at engaging long-range targets even pushed American doctrines to adapt longer ranges of engagement, straying further away from wartime engagement ranges. Additionally, the M60 fires at a rate of seven rounds per minute, which is a lethal rate of fire for the Cold War era. [37] This historical trajectory demonstrates that the XM60 program and subsequent M60 variants were characterized by a dynamic response to challenges both in terms of advancing technology and surpassing Soviet tank designs.

Moreover, if the T-54 and T-55 provided the first attention to crew survivability, the M60 Patton introduced the importance of considering crew comfort. The M60 has a significant height difference compared to the T-55, which is a detriment to a tank's concealability in open terrain as well as behind cover. This decision to sacrifice concealability for crew comfort and better internal ergonomics inaugurates a modern approach to crew comfort as well as survivability, evident in its tall but relatively spacious turret and more spacious interior. The M60's turret layout is arranged in typical American fashion, with the gunner on the right in front of the commander and the loader to the left of the cannon breech. Additionally, “the turret interior is roomy in comparison to other main battle tanks of the 1960 era,” allowing for better combat efficiency as crew members are less troubled by claustrophobia since tank interiors are often extremely cramped with close to no leg or headroom; consequently, a more spacious turret offers tank crews a much more comfortable ride and operation experience. [38]

The larger turret and repositioning of ammunition stowage in the M60 were not merely design quirks but intentional choices tied to American doctrinal principles. This emphasis on crew protection and vehicle reliability in the M60's design distinguishes it from Soviet tank designs, which were often considered more rudimentary or perhaps even crude. This is present in the implementation of the RISE (Reliability Improvements for Selected Equipment) engine, which received considerable enthusiasm in the field. Positive responses to features like the Commander/Gunner Passive Nighttime Sights and the Drivers' Nighttime Viewer affirm the M60A1 RISE Passive tank as a highly satisfactory weapons system. [39] Despite a slightly lower power-to-weight ratio compared to counterparts like the T-55, the M60's strategic decision focused on reliability over excessive mobility, aligning with the American doctrine's emphasis on strategic deployment and maintaining range advantage in combat environments.

This decision to prioritize crew safety and ensure reliable operation mirrored the values embedded in American tank doctrine, which is also reflected in the implementation of ammunition blowout panels in the turret in the M60-2000 modernization project and the subsequent 120S further modernization project. [40] Blowout panels were a compromise

between crew safety ammunition accessibility and loading efficiency, where in the case of an ammo detonation, roof panels of the ammunition storage compartment would come off, releasing the flames. Due to the many steps required in loading ammunition into the storage compartments, as well as the extra training and time required to load it into the cannon breech, the implementation of blowout panels also hinders loading efficiency, as the tank loader needs to wait for the blast door to open to load ammunition.

The final military contribution the M60 provided to tank development was its deployment combat experience in guerilla fights, which to this point typically only included infantry and, on occasion, a few cavalry who could more easily navigate dense vegetation or winding terrain. During the Vietnam War in the 1960s and 1970s, the M60 faced challenges in the dense jungles and against guerrilla tactics, revealing vulnerabilities that prompted subsequent modifications such as the installation of explosive reactive armor and enhanced night-vision capabilities, addressing weaknesses observed in the unconventional terrain of Vietnam. Despite these challenges, the M60 proved to be invaluable against North Vietnamese forces equipped with Soviet T-54/55s, which had previously been considered superior to American tanks due to their higher rate of fire and better armor protection, but are now overtaken by the M60 in terms of combat capabilities. [41] The good level of success of the M60 in its early conflicts prompted other nations—those that could not domestically produce tanks—to purchase it for their self-defense programs.

In the Yom Kippur War of 1973, the M60 encountered formidable opponents armed with Soviet-designed tanks, necessitating improvements in armor protection and firepower. Post-Yom Kippur, the M60 underwent significant upgrades, introducing advanced fire control systems and thermal sights with the M60A3 variant, which not only improves reliability in diverse combat environments but also allows for a higher first-hit chance and kill rate. The M60A3 can achieve a good 70% first-hit chance against a stationary target at 2000m, a large jump in performance from its preceding variants, which only had a 23% chance in the same conditions, reinforcing its capabilities for potential tank-on-tank engagements.

The technological advancements incorporated into the M60 tank facilitated a seamless integration into American doctrinal demands, marking a significant evolution in armored warfare strategy. Most importantly, the M60 was one of the first tanks to embody the concept of a "main battle tank" (MBT), which aimed to combine the roles of medium and heavy tanks into a single versatile platform, designed for face-to-face combat. [42] The M60's success in meeting doctrinal requirements can be attributed to its advanced weaponry, firepower, and adaptability in combat situations. Despite its age, the legacy of the M60 Patton still stands strong to this day. The fact that the M60 still exists today in over 22 countries, including Bahrain, Egypt, Iran, and Morocco, has further contributed to the idea of tank longevity worldwide and, in the US, the superiority of US military ideology over other countries. [43]

### **Early Tanks That Shadow All**

The ongoing debates about the utility of tanks versus drones highlight the evolving nature of military strategy; while drones offer unique advantages, tanks provide a physical presence and firepower that cannot be easily replaced. The adaptability of tanks, demonstrated by their transition from offensive tools to instruments of international peacekeeping, highlights their enduring relevance. As the arms race persists, the historical progression of tank development serves as a guide, emphasizing the enduring importance of maintaining a well-balanced and

adaptable armored force to secure a nation's military potential on the global stage. Understanding the historical context in which modern tanks are developed gives us a more objective and informed perspective on modern conflicts involving tanks, allowing us to identify false statements and misinformation in the media.

The 1950s period is crucial for understanding the evolution of tank warfare, from its humble yet promising beginnings in the First World War to the technologically advanced machines of warfare in the modern era, which not only reflects the many changes in military strategy and development doctrine but also the broader advancements in political landscapes and technological advancements.

The Soviet T-54/55 spearheaded the movement to establish a universal main battle tank, reflecting the Soviet ideology of “quantity over quality,” with thick armor and heavy firepower, truly encapsulating the image of a tank. The T-54/55’s success prompted designers to refine and upgrade its capabilities, incorporating advanced technologies and improved armor to create a lineage of tanks that retained its versatility while enhancing overall performance, effectively setting the stage for the formidable Soviet T-72 and subsequent T-80 and T-90 series of tanks.

The American M60 Patton brought alive the concept of a main battle tank, pushing for a greater balance between firepower, protection, mobility, and adaptability, setting the stage for a new paradigm of main battle tanks. The lessons learned from the M60's service led to the development of the M1 Abrams, which revolutionized tank design with its balance between various factors of tank design, as shown in its combination of advanced composite protection, fire control systems, and mobility, all in one complete package.

Through the 1950s, we witnessed the reinvention of the tank, not as a monolithic armor chassis, but as a multifaceted, multipurpose vehicle. It evolved past World War II tanks by providing new comforts and protections for drivers, advanced maneuverability across battlefields to provide innovative new military strategies, and, of course, wielded new “big guns.” Rather than focus on the “golden age” of 1980s tanks, we must take a longitudinal approach to military tool development, honoring how each layer of innovation creates ripples that span time, space, and creation.

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